F·A·A·M facility for airborne atmospheric measurements

FLIGHT FOLDER

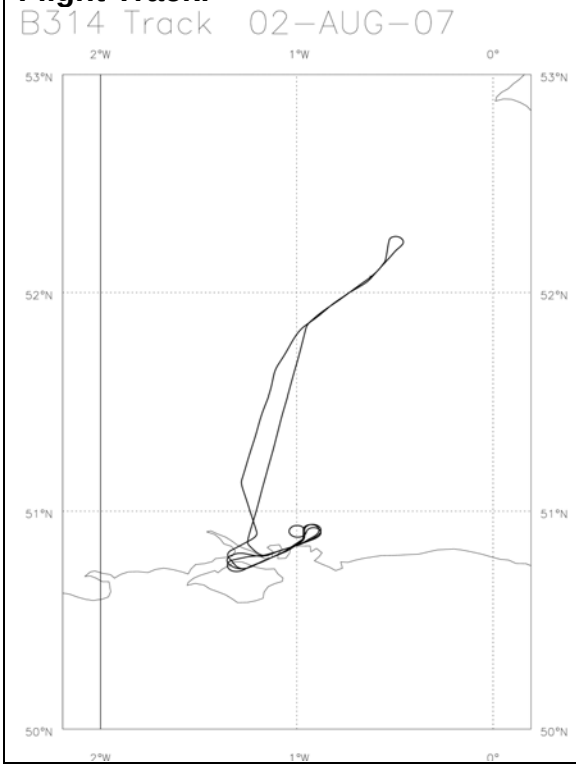
Flight No.:	B314
Date:	02 August 2007
Take Off	15:21:21Z
Landing:	16:48:47Z
Flight Time	1h 27

Campaign: NEON

Operating Area: Portsmouth Trial for NEON

POB	Position	Name	Institute
1	Captain	Al Roberts	Directflight
2	Co-pilot	Ian Ramsay-Rae	Directflight
3	CCM 1	Dawn Quinn	Directflight
4	Mission Scientist 1	Simon Osborne	Met Office
5	Flight Manager	Mo Smith	FAAM
6	Cloud Physics / CCM2	Kate Turnbull	FAAM
7	IR Camera / SWS	Andy Wilson	Met Office
8	SWS / SHIMS Training	Debbie O'Sullivan	Met Office
9	ARIES	Stuart Rogers	Met Office
10	MARSS / DEIMOS	Dave Pollard	Met Office
11	MARSS / DEIMOS Training	Rob King	Met Office
12	Mission Scientist 2	Andreas Keil	Met Office
13	TAFTS 1	Paul Green	Imperial College
14	TAFTS 2	Caroline Cox	Imperial College
15			
16			
17			
18			
19			
20			

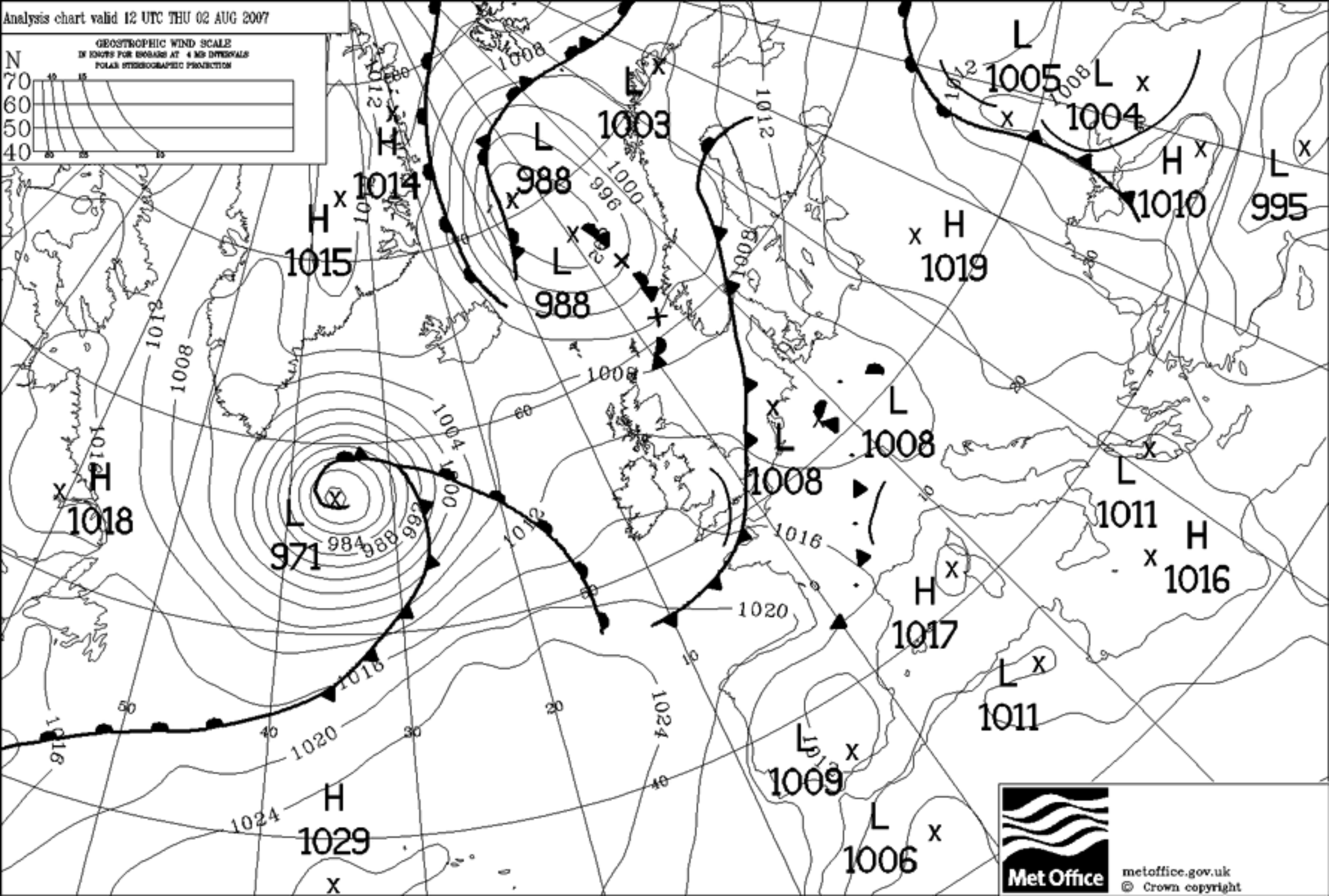
Flight Track:



FLIGHT SUMMARY

Flight No B314
Date: 02 August 2007
Project: NEON
Location: Portsmouth Harbour

Start Time	End Time	Event	Height (s)	Hdg	Comments
145652		Start-Up	0.31 kft	125	52'04.36N, 0'37.50W
152121		T/O	1.2 kft	225	Cranfield
153041		Videos	9.8 kft	198	Start UFC & Spotter
154249	154612	Run 1.1	2.1 kft	054	2.1k',SW-NE , 0.45nm
154439		Event	2.1 kft	058	In sight
155139	155433	Run 1.2	2.1 kft	235	2.1k', NE-SW, 0.45nm
155359		Event	2.1 kft	246	In sight
155829	160205	Run 1.3	2.1 kft	067	2.1k',SW-NE,0.45nm S
160030		Event	2.1 kft	054	In sight
160451	160757	Run 1.4	2.1 kft	226	2.1k',NE-SW,0.45N
160718		Event	2.1 kft	251	In sight
161128	161517	Run 1.5	2.1 kft	058	2.1k',ZW-NE,0.45nm S
161349		Event	2.1 kft	056	In sight
161812	162108	Run 1.6	2.1 kft	230	2.1k',NE-SW,0.45nm N
162035		Event	2.1 kft	244	In sight
164847		Land	0.31 kft	356	Cranfield
165146		Video	0.30 kft	309	Stop tapes
165238		Shutdown	0.30 kft	309	52'04.36N, 0'37.48W


Analysis chart valid 12 UTC THU 02 AUG 2007
GEOSTROPHIC WIND SCALE
IN KNOTS FOR 850MB AT 4 MB INTERVALS
POLAR STEREOGRAPHIC PROJECTION
N
70
60
50
40
H 1014
H 1015
L 1003
L 988
L 988
H 1019
L 1005
L 1004
H 1010
L 995
H 1018
L 971
L 1008
L 1008
L 1011
H 1016
H 1017
L 1011
L 1009
L 1006
H 1029
1008
1012
1016
1020
1024
1000
996
992
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984
1004
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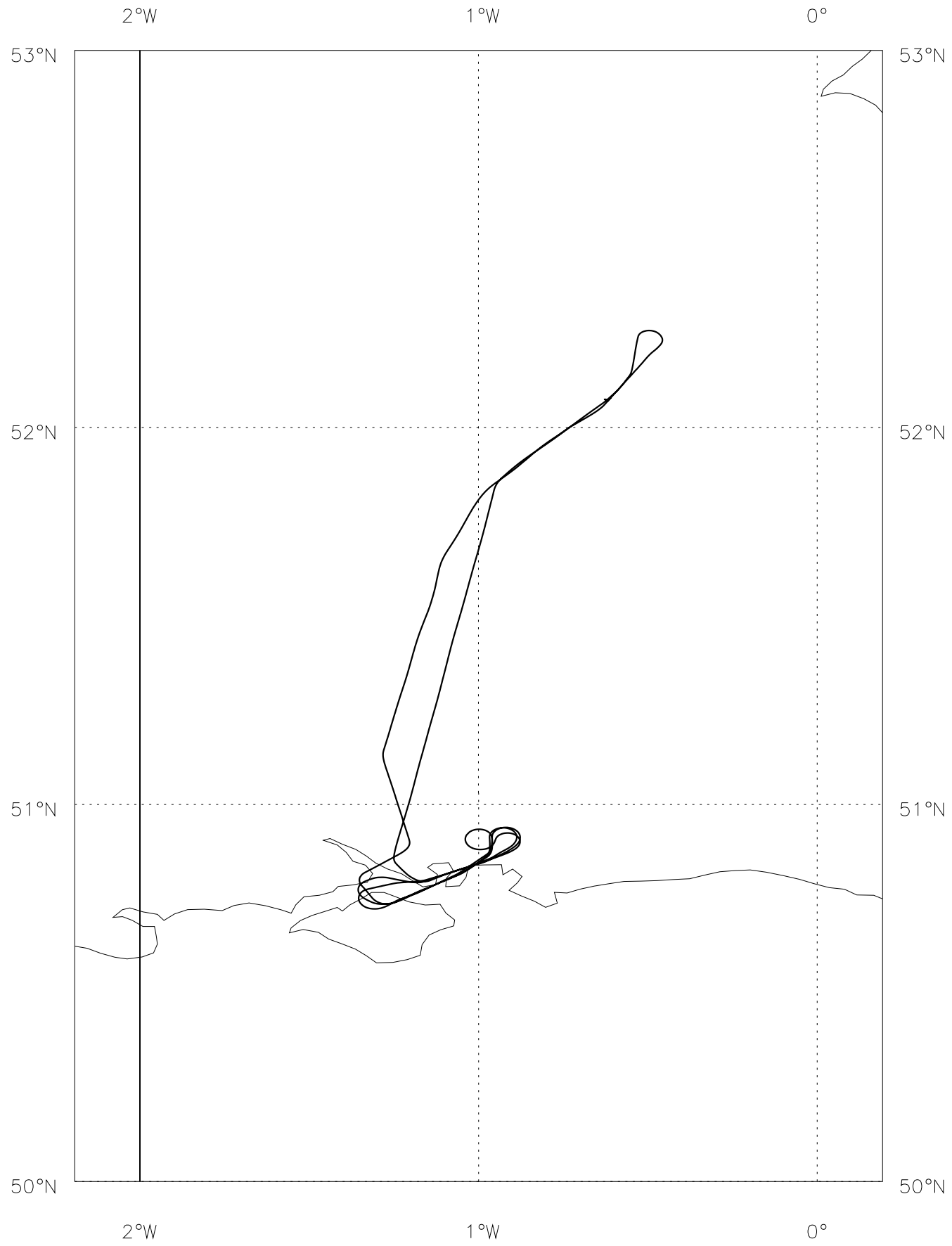
B314 Track 02-AUG-07



SORTIE BRIEF

Flights B313 & B314 (Portsmouth Trial for NEON) 2 Aug 2007

Mission Scientist: Andreas Keil/Simon Osborne

Trial Objectives

Take pictures with the IR camera of a specific stationary ship at Portsmouth Harbour. Pictures from various directions are required, in particular of the stern area of the ship.

Take off

10:30 local (B313); 15:30 local (B314)

Location

HM Naval Base Portsmouth, No.3 Basin, north of the quay in the easterly part (N50deg/48.458 min; W01deg/05.777 min)

Weather

Ideally totally cloud free conditions required, but definitely no rain.

Instrumentation Required

Main: IR camera, middle lens fitted (possibly to be changed for second flight), 10 Hz data acquisition frequency; Spotter Camera working
Addition: core temperature, water vapour, aerosol instruments (PCASP)

Special Conditions + Hints

- **ALL IR PICTURES TAKEN WILL BE RESTRICTED!**
- The ship will be aligned West to East.
- Flight Heights below 2k ft will not be allowed.
- To achieve a sufficient resolution, we would like to use the most narrow (telescope) lens of the IR camera, but to increase the change of getting the ship in the field of view will use the middle lens for B313. This potentially to be changed for B314.
- [Get information on ground-based visibility at Portsmouth Harbour]

Flight Pattern

1. Take off and transit to Portsmouth Harbour (30 min.)

--- Over/nearby ship----------

2. Approach the ship and visualize its location at lowest possible altitude (B313 only)
3. Fly a SW→NE approach at 2,000ft for IR cam pics of the ship (about 0.47nm displacement to the right of the ship required)
4. Fly a NE→SW approach at 2,000ft for IR cam pics of the ship (again about 0.47nm displaced to the right of the ship)
5. Repeat 3 and 4 at least twice, maybe three time (depending on success and timing)

- if flight restrictions demand change of heading to get the ship in the field of view, this causes no scientific problems, also changes in roll angle are uncritical; it is mainly important to achieve a clear view of the ship and get IR cam pictures from various directions; this might also involve flying at other altitudes than 2000ft, if e.g. at higher altitudes it turns out to be easier to get pictures of the ship -

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6. Transit back to Cranfield and Landing (30 min.).

Total time: about 2 hours per flight = 4 hours on the day

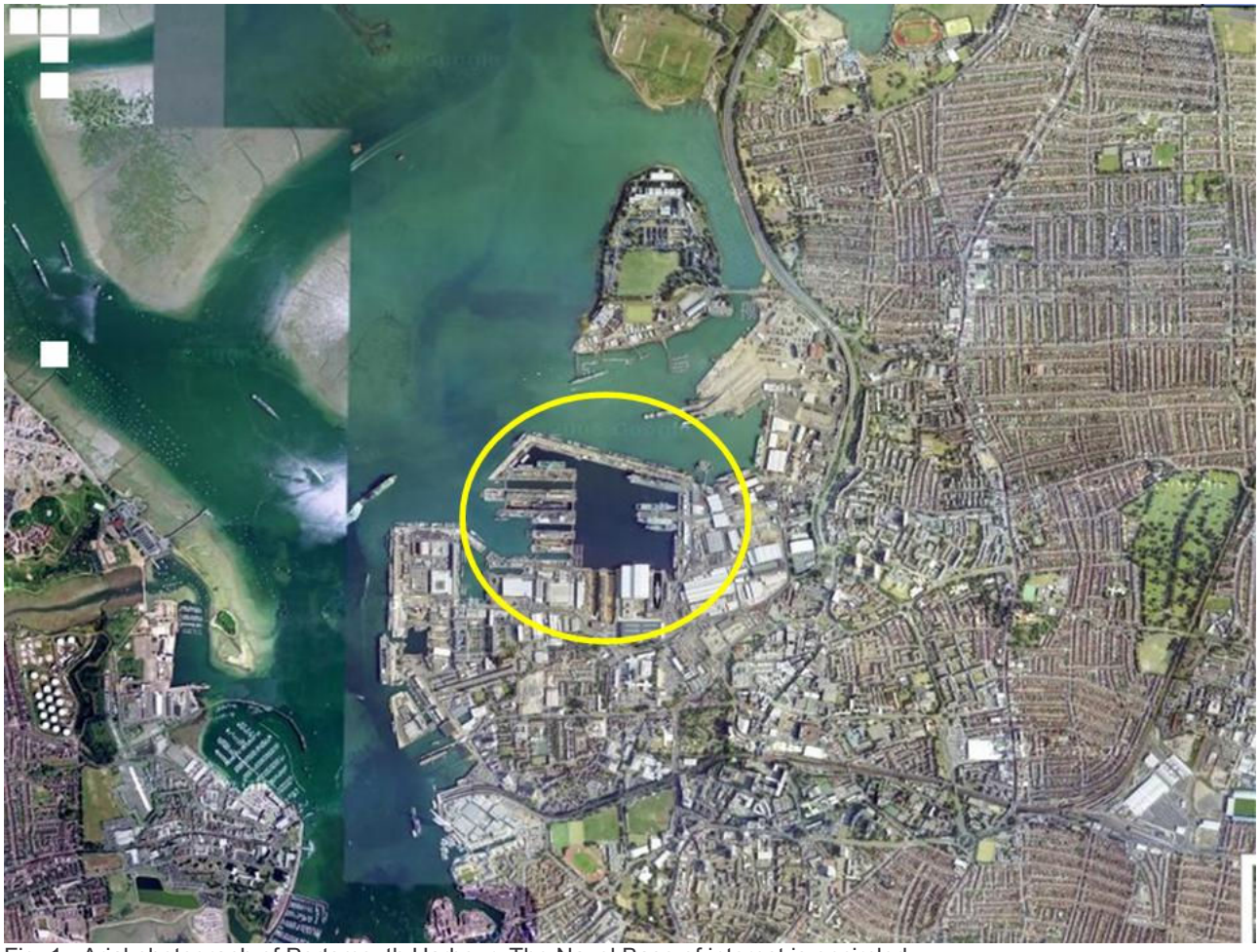

Fig. 1: Arial photograph of Portsmouth Harbour. The Navel Base of interest is encircled.

Fig. 2 Ship of interest. In particular IR camera pictures of the stern area of the ship are of interest.
Length of the ship: 174 m; Breadth 23 m

Appendix A: Height – Distance Conversion

The horizontal shift S of flight legs parallel to the runway to keep the runway in the view of the IR camera is dependent on the angle Y the camera is looking below the horizontal and the flight height H:

S (nautical miles) = H (ft) / tan(Y) * 0.3048 * 0.54E-03

Assuming IR camera view = 35 degrees down the horizontal:

(Use EXCEL sheet to compute distances for other angles, http://metresearch.net/CAESAR/)

Ideal NEON flight levels marked with an X	Flight Height (ft)	Displacement right of runway (nautical miles)	Flight Height (km)	Displace-ment (km)	Displace-ment (statute miles)	IR camera viewing distance (km)
missed approach: X	**0**	**0**	0	0	0	0
X	**500**	**0.118**	0.152	0.218	0.135	0.12
X	**1000**	**0.235**	0.305	0.435	0.270	0.53
	2000	0.470	0.610	0.871	0.541	
X	**3000**	**0.705**	0.914	1.306	0.811	1.59
	4000	**0.940**	1.219	1.741	1.082	
X	**5000**	**1.175**	1.524	2.176	1.352	2.66
	6000	**1.410**	1.829	2.612	1.623	
	7000	**1.645**	2.134	3.047	1.893	
	8000	**1.880**	2.438	3.482	2.164	4.25
	9000	**2.115**	2.743	3.918	2.434	
X	**10000**	**2.350**	3.048	4.353	2.705	5.31
	12000	**2.821**	3.658	5.224	3.246	
(X)	**14000**	**3.291**	4.267	6.094	3.787	7.44
	27000	**6.346**	8.230	11.753	7.303	

Table 1: Displacement for straight and level runs to keep the runway in the FoV of the IR camera (Y=35 degrees).

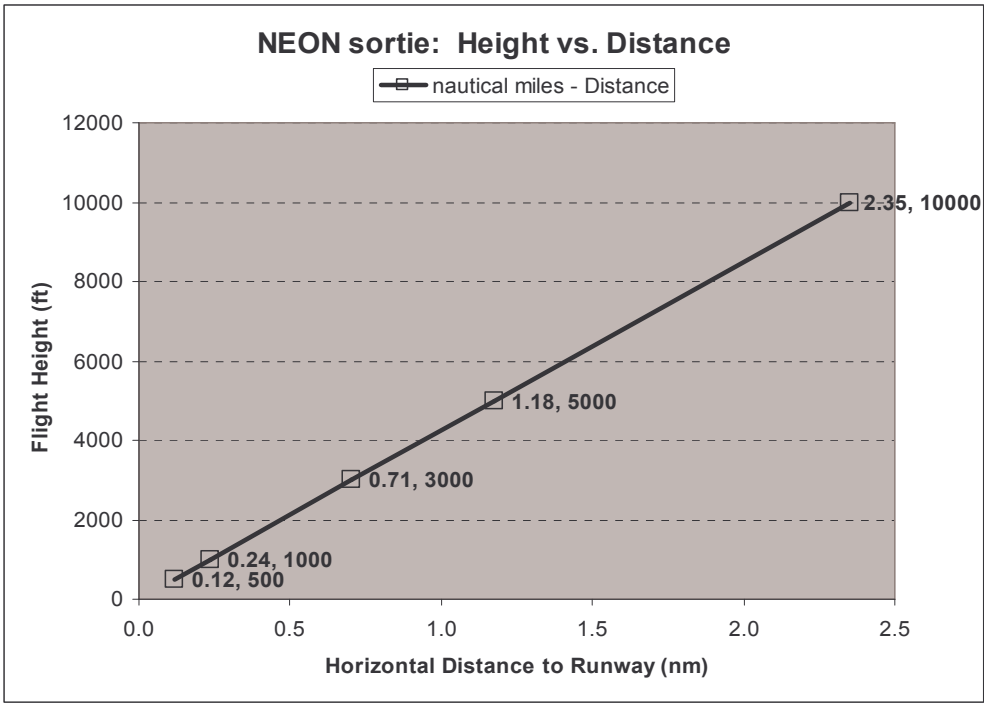

Fig. A: Displacement graph (Y=35 degrees).

Appendix B: Height – Resolution/Area relation

The resolution or covered area achieved with the various IR lenses at various flight heights.

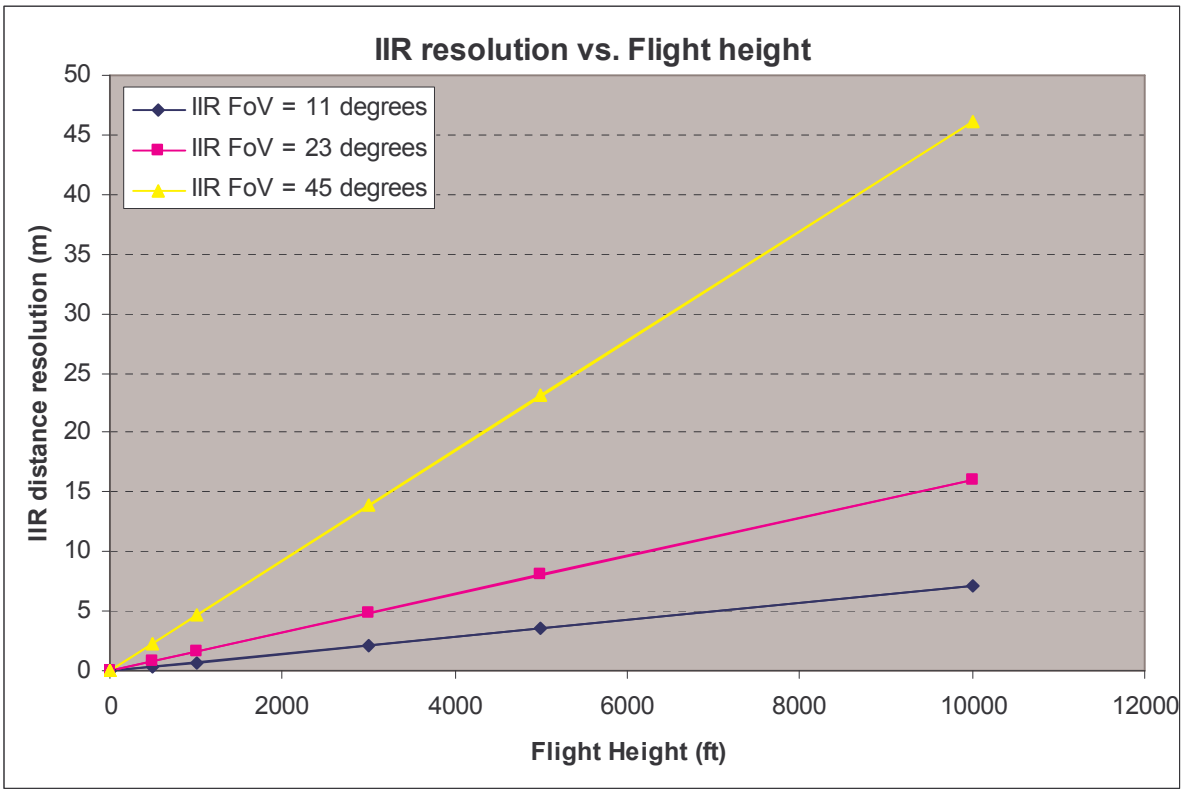

Fig. B1: Resolution vs. Height.

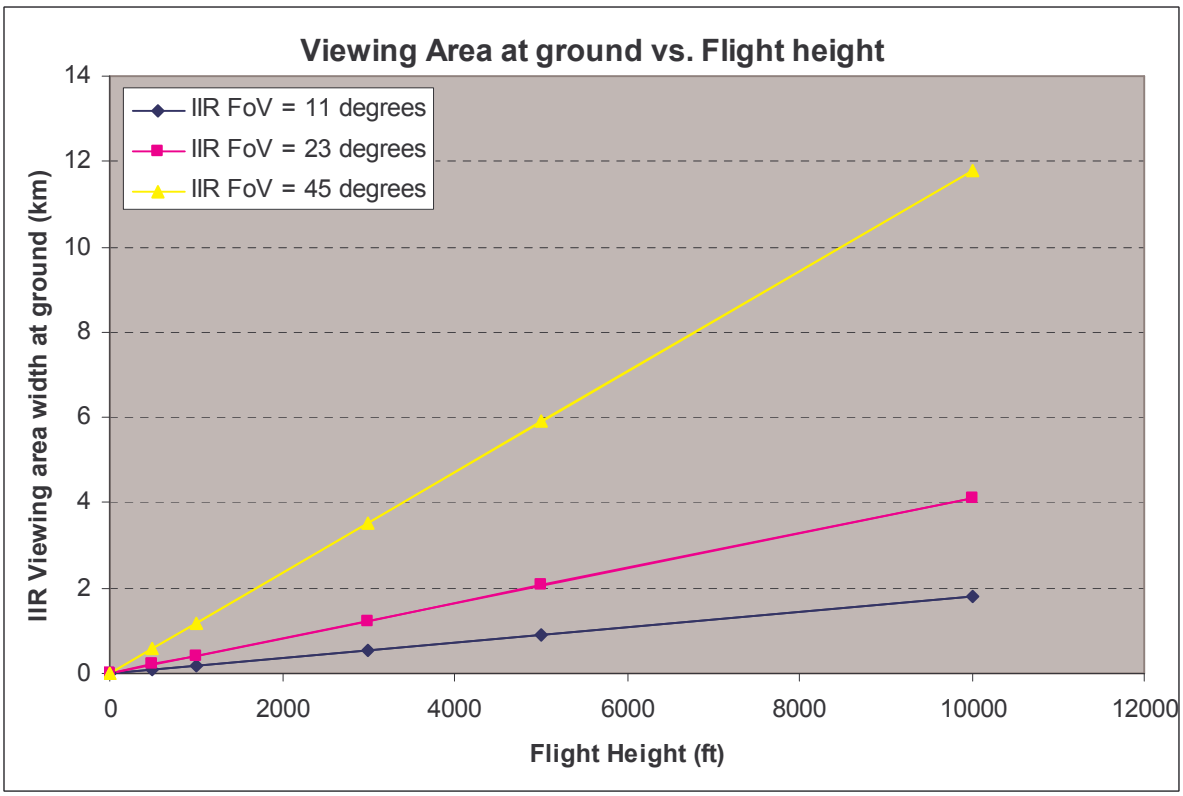

Fig. B2: Area vs. Height.

Mission Scientist's debrief sheet

B314 2nd August 2007

Summary of the synoptic weather conditions:

Cold front moving relatively quickly NW to SW (frontal band itself orientated SW to NE), with heaviest rain over West Country and south Wales in the morning. The front weakened as it moved towards the Portsmouth area mid afternoon, but light rain still falling. Rising pressure in ridge conditions post front. The front cleared through Portsmouth ~1430z. Light westerly winds.

Summary of the flight:

The second of two NEON sorties on this day- see also B313. A successful flight was carried out to take IR camera photographs of the Royal Navy ship Oakleaf that was docked in Portsmouth harbour. Scientific personnel were on board Oakleaf during the day to make in-situ skin temperature measurements of various parts of the ship. The cold front had cleared through and sunny (but not cloud free; 7/8 Ci, scattered light Cu bases above run height) conditions were encountered during the flight; so the ship was dry and warmer than during the earlier flight B313.

A series of six straight and level runs (generally between 2-4 mins long) was carried out at 2100ft (minimum permitted altitude) on a SW/NE line (headings of ~050deg and ~240deg) overpassing the Portsmouth docks. For the runs heading NE, the aircraft was offset approx 0.4 nautical miles to the south of the ship. For the runs heading SW, the aircraft was offset approx 0.4 nautical miles to the north of the ship. Of the 6 runs, three were fully successful hits of the ship i.e. in the camera field of view (R1.1 SW-->NE; R1.4 NE-->SW; R1.6 NE-->SW), so both sides of the ship were photographed.

Pollution levels in terms of aerosol were fairly high, generally around 1400 /cc on the PCASP with some plumes from an oil refinery in the SW end of the runs. Particles were predominantly sub-micron in size.

Instrumentation:

IR camera fitted with high telescope lens (max. resolution).
Software adjusted to record frames at 10 Hz.

Mission Scientist's Log

NEON FLIGHT #2 of the day — S. ROSBORNE

Flight No B.314 Date 02/08/07 Page 1 of .....

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
~1520					
					T/O CRANFIELD.
					overcast still, but 'brighter'.
					No rain!
1530		FL100		(half way to Portsmouth)	TRANSIT. above 4/8 Cu field
					1/8 Ci above. Quite sunny
1540		2000'			Industrial refinery coming up
					RHS → lots of smoke seen.
		2100'			Next ~ 0.55nm ~ 25 x10^{-6} m^{-1} ~ BL
154248	R1.1	2100'	051	50°42'N 1°12'W	Start Run! (SW → → NE)
154430	R1.1	2100'			Abeam ship! * Perfect hit *
					@ 0.45nm Ahead to the South.
154611	R1.1	2100'	044	50°48' 0°54'	End Run. Good sunshine.
					Should be a warm, dry ship.
					PCASP ~ 1400/cc! Higher than before
					Lines recovered well after rainfall.
155139	R1.2	2100'	235	50°48'N 0°48'W	Start Run NE → → SW.
155353	R1.2	@2100'			Abeam ship now(?) Just ahead of it.
1554?	R1.2	2100'			End Run. PORTSMOUTH.
155826	R1.3	2100'		50°42'N 1°12'W	Start Run. SW → → NE.
160025	R1.3	2100'			Abeam ship (?) 0.45nm MISS
160205	R1.3	2100'		50°48' 0°54'	End Run.
160449	R1.4	2100'		50°48' 0°54'	Start Run. (NE → → SW)
160715 (?)	R1.4	2100'			Abeam ship now. GOOD HIT #2
160758	R1.4	2100'		50°42'1"N 1°12'W	End Run.
161128	R1.5	2100'		50°42'N 1°12'W	Start Run SW → → NE

Mission Scientist's Log

S. R. OSBORNE

Flight No B.314..... Date ....02/08/07..... Page 2.... of .....

GMT	Run / Profile	Height	Hdg	GPS Position	Remarks (clouds, weather, visibility, winds, sea state etc.)
161344	R1.5	2000'	051		Beam ship Norwish → MISS
161517	R1.5	2100		50°48'N 0°54'W	End Run.
161911	R1.6	2100'	230	50°48'N 0°54'W	Start Run. cloud conditions as before quite sunny
162038	R1.6	2100	243	50°42' 1°6'	Beam ship now
162409					END Run. → HIT! # 3
					Tend Science.

CLOUD PHYSICS LOG Flight B314

Date: 02/08/07	Operator: KFT	DRS Time: 08:19:00	DAU1 Time: +0	DAU2 Time: +0	DAU3 Time: +0	Aux1 Time: +0	Aux2 Time: +0	Page 1 of 1

G.M.T	PCASP		FFSSP	SID1	SID2	2D2-C		2D2-P		CIP25			CIP100			Habit	Remarks
	Conc/cc	Mean R	Block TX	Count	Count	Conc/L	Max size	Conc/m3	Max size	Conc m3	Max size	LWC	Conc m3	Max size	LWC		
			PCASP Vref=8.2V pre-flight														
			2DC/2DP stable on ground.														
			SID2 LASER 12mW														
15:30																	SID2 NOT RESPONDING MESSAGE MS02
15:31:20																	1st 2d images
15:37:24	339	0.08	245	8000	8000	0		0									FL050
15:38:00	624	0.08	385	8	0	0		0									FL040 FFSSP SYNCH'ED
15:39:55	1053	0.08	392	8	1	0		0									FL020
15:42:51	1646	0.07	392	10	1												START RUN 1
15:44:30	1258	0.08	392	10	1												PASS 1
15:46:15	1175	0.08	392	10	1												END RUN 1
15:51:42	771	0.08	393	8	0												START RUN 2
15:53:07	1192	0.08	393	10	1												PASS 2
15:54:35	1158	0.08	393	10	0												END RUN 2
15:58:30	1158	0.08	393	8	0												START RUN 3
16:00:37	1184	0.08	393	10	0												PASS 3
16:02:07	1074	0.08	393	10	0												END RUN 3
16:05:32	1034	0.08	394	10	0												START RUN 4
16:07:26	1209	0.08	394	10	0												PASS 4
16:07:57	948	0.08	394	10	0												END RUN 4
16:11:30	1073	0.08	394	10	0												START RUN 5
16:13:55	1220	0.08	394	8	0												PASS 5
16:15:20	1042	0.08	394	10	0												END RUN 5
16:18:15	1001	0.08	395	10	1												START RUN 6
16:20:45	1055	0.08	395	10	0												PASS 6
16:21:13	970	0.08	395	10	1												END RUN 6

Revision date: 04/09/2007 11:23 AM

CLOUD PHYSICS PROCESSING LOG

Flight number: **B314** **T/O:** 15:21:21
Date of flight: 02/08/07 **Land:** 16:48:47

A) FFSSP PROCESSING		To Exeter
Processing Stage	Done?	Comments
1) Transfer *.txt files from DVD to processing PC		
Bnnn_FFSSP_hh.txt for each hour of data Bnnn_FFSSP_HVMS.txt		**hh =** **Last sec processed =**
2) FTP the files (ascii) from the PC to directory PMSDATA: on FLOODS		**File size =**
3) FLOODS> **RUN MRFB:[PMS.FAST_FSSP]FSSP_EXTRACT_TAS** a) Flight number: **Bnnn** b) Path name: **MFDDATA:Bnnn_MFDX** c) Output directory: **PMSDATA:** d) Start time: *0 if unknown (see comment box)* e) End time: *240000 if unknown*		Use time just before/after take-off/landing. If T/O /landing just after/before the hour, ensure start/end time is before/after the hour if there is an FFSSP_hh.txt file for that hour.
4) FLOODS> **RUN MRFB:[PMS.FAST_FSSP]FFSSP_PROCESS_TXT** a) Flight number: **Bnnn** b) Directory: **PMSDATA:** c) TAS in processing: **Y** d) Vel threshold (clicks) **0** e) Calibration file: *Use the most recent calibration file.* Format FFSSP_CALddmmyyyy.txt Calibration files to be stored in MRFB:[PMS.FAST_FSSP] f) Adjust FFSSP time **Y/N** g) If Y, enter value to add to data time (seconds)		**Total glitches =** **Sec file written ok?** **Note calibration file used** Yes only if gross errors occur in FFSSP time eg; ~ 1hour
5) FLOODS> **WAVE** a) WAVE> **write_procffssp_to_m5,'pmsdata:Bnnn_procffssp.dat', 'mfddata:Bnnn_mfdX','pmsdata:Bnnn_m5procffssp',/auto** b) WAVE> **exit**		Use PVWAVE for this section **Note time correction applied to FFSSP by /auto =**
6) FLOODS> **MODIFY** a) Modifying datasets: **pmsdata:Bnnn_m5procffssp** b) Dataset: **mfddata:Bnnn_mfdX** c) New dataset: **mfddata:Bnnn_mfdY (y=x+1)** d) Parameter description file: *leave blank to use default*		**Input file size =** **M5 output file size =**
7) CHECKS: i). Are FFSSP and JW/Nevzorov LWC synchronized in time? *In flight_plot, parameters* *JW LWC para 535* *Nevzorov LWC para 602* *FFSSP LWC para 1202* ii). If not, repeat from step 5b replacing /auto with **addt=x** which adds x+20 secs to FFSSP time.		**Synchronized?**

CLOUD PHYSICS PROCESSING LOG

Flight number: **B314**
Date of Flight: 02/08/08

B) 2D PROCESSING		REPROCESS +1hr
Processing Stage	Done?	Comments
1) Transfer Bnnn.dat file from CD/DVD to PC	Y	
2) Zip up file on PC (Bnnn.zip)	Y	
3) FTP the zipped file (binary) from the PC to the directory SEADAS_DATA:[SEADAS_DATA] on FLOODS	Y	4877 blocks
4) Log on to FLOODS		
5) Unzip SEADAS_DATA:[SEADAS_DATA]Bnnn.zip	Y	**Size of Bnnn.dat = 44219**
6) FLOODS> **WAVE**	Y	Use PVWAVE for this section
WAVE> **CONVERT_SEADAS_FILE** a) Input file: **SEADAS_DATA:[SEADAS_DATA]Bnnn.dat** b) Output file: **SEADAS_DATA:[SEADAS_DATA]Bnnn_seadas.dat** WAVE> **exit**		**Blocks read = 12746** **Blocks written = 12746** **Bad reads = 0**
7) FLOODS> **RUN MRFB:[PMS.SEADAS]READM200_FILE**	Y	
a) Default directory: **PMSDATA:** b) Flight number: **Bnnn** c) Disk file name: **SEADAS_DATA:[SEADAS_DATA]Bnnn_seadas.dat** d) Comment string: e) Start time: *0 if unknown (T/O – 5 min)* f) End time: *240000 if unknown (Land + 5 min)* g) Read 2DC: **Y** h) Read 2DP: **Y** i) Secondary data: **Y** j) FSP-SYNC: **Y** k) cmd.str: **Y** l) Auto time correction: **N** m) Full length secondary:**N**		**Start = 151500** **End = 165500** Ignore error message scroll (vestigial error from tapes) **Are FRW, FSP, IMB, PCA,SEC files in PMSDATA? Y** **Are they non-zero in size? Y**
8) FLOODS> **WAVE**	Y	2D image display and printing
i). WAVE> **imagedisplay** a) 2D directory name: **PMSDATA:** b) Flight number: **Bnnn** c) File generation no: **0** d) Time from IWC plot: **N** e) Select probe: (**1**) 2DC (**2**) 2DP f) Start time: *As in 7e above* g) End time: *As in 7f above* h) Time interval (sec): **5** recommended (0 for all images)		Must be done from FLOODS itself. **Note any problems with images** Only 1 2dc image – noise?
ii). WAVE> **auto_image** a) 2D directory name: **PMSDATA:** b) Flight number: **Bnnn** c) Enter date: **YYYYMMDD** d) Enter start time: *0 if unknown (T/O – 1 min)* e) Enter end time: *240000 if unknown (Land – 1 min)* f) Enter time interval (sec) between successive imaged blocks: **10**	0 for 2DC	Prepare imagery for Core data From own PC again **Start = 151500** **End = 165500** As misses images otherwise
iii). WAVE> **exit** to create files iv). FTP ascii *.PS files from PMSDATA: to PC v). Load each into Ghostview or other pdf-converter vi). Output as pdf file (720 dpi resolution), appending name prefix of **CORE-CLOUD-PHY**_ to converted files		FAAM_YYYYMMDD_R0_ Bnnn_2Dx-images.ps Notes on this in instructions 1 page 2dc 1 page 2dp

9) FLOODS> **RUN MRFB:[PMS.SPEC2D.AUTO]PROCESS2D_AUTO** a) Flight number: **Bnnn** b) Directory: **PMSDATA:** c) File generation: *Hit enter* d) Time correction: *Time offset of the 2D data* e) TAS: **Y** f) MFD directory: **MFDDATA:Bnnn_MFDX** g) Probe number: (**1**) 2DC (**2**) 2DP (**0**) Both *0 unless either probe known to be faulty* h) Start time: *0 if unknown (T/O + 30sec)* i) End time: *240000 if unknown (Land – 30sec)* j) Nominal averaging: **0.2** seconds for conversion to M5 k) Particle type 2DC: **8** if known to be in ice cloud **11** if known to be in water cloud l) Particle type 2DP: **8** if known to be in mixed-phase **8** if unknown m) Coefficient choice: **2** n) Output root filename: **PMSDATA:Bnnn_PROC2D**	Y	NB. an error message may appear, floating point exception, rerun and use time quoted in error message, repeat until successful. **X = b314_tas** **Start = 152000** **End =** 165000 **Time data processed to =** 113350 **2dproc files present? Y** *.2dc, *.2dp and *.dat
10) FLOODS> **WAVE** i) WAVE> **WRITE_PROC2D_TO_M5, 'PMSDATA:BNNN_PROC2D.DAT', 'PMSDATA:BNNN_M5PROC2D'** ii). **exit**	**Y**	Use PVWAVE for this section Error message about HDDR file should be ignored. **Records = 79, 178**
11) FLOODS> **MODIFY** a) Modifying datasets: **pmsdata:Bnnn_m5proc2D** b) Datset: **mfddata:Bnnn_mfdX** c) New dataset: **mfddata:Bnnn_mfdY** d) Parameter description file: leave blank to use default	**Y**	 **X = _tas** **Y = (X+1) = _tas_2d**
12) CHECKS: Are 2DC/2DP IWC of comparable magnitude and well-correlated with Nevzorov TWC? *In flight_plot, parameters* *Nevzerov TWC para 605* *2DC IWC para 1302* *2DP IWC para 1312*	N	Data present in _tas_2d **Correlated?**

CLOUD PHYSICS PROCESSING LOG

Flight number: **B314**
Date of Flight: 02/08/07

C) PCASP PROCESSING		
Processing Stage	Done?	Comments
1) Complete stage 7) in 2D processing Ensures Bnnn_FSP.DAT containing raw PCASP data is written to directory PMSDATA:	Y	
2) FLOODS> **RUN MRFB:[PMS.PCASP]PROCPCASP_NEW** a) Flight number: **Bnnn** b) File name: **PMSDATA:Bnnn_FSP.DAT** c) Root output name: **PMSDATA:Bnnn_PROCPCASP** Produces PMSDATA:Bnnn_PROCPCASP.DAT (binary) PMSDATA:Bnnn_PROCPCASP.OUT (ascii) d) Minimum size channel: *default = 1* *If smallest size channel are known to be noisy the value of the highest noise free channel to be entered here* e) Calibration volume flow rate: *Use the most recent value. 1.8ccs^{-1}* *Calibration files to be stored in **Exeter*** *Entering zero gives default value = 1.0 cm^{3}s^{-1}* f) Time correction: *Same value as used in 2D processing stage 9d* g) Start time: *0 if unknown* h) End time: *240000 if unknown*	Y	 **Min size = 1** **Vol flow rate =** 1.0 152100 164900
3) FLOODS> **WAVE** i).WAVE> **write_procpcasp_to_m5, 'pmsdata:Bnnn_procpcasp.dat', 'pmsdata:Bnnn_m5procpcasp'** ii). WAVE> **exit**	Y	Use PVWAVE for this section
4) FLOODS> **MODIFY** a) Modifying datasets: **pmsdata:Bnnn_m5procpcasp** b) Dataset: **mfddata:Bnnn_mfdX** c) New dataset: **mfddata:Bnnn_mfdY** d) Parameter description file: *leave blank to use default*	Y	 **X = _tas** **Y = X+1 = _tas_2dpcasp**
5) CHECKS Are PCASP and JW peaks synchronous? *In flight_plot, parameters* *Neph – total blue scatter.* *PCASP conc para 1550*	N	Data present in tas_2dpcasp **Merged OK?**

B314_SWS_SHIMS_EventLog.txt

```
14:36:55.93  ---      -     -     -     -
14:36:55.93  ---      -     -     -     -  +++ SOFTWARE START/RESTART +++
14:36:55.93  ---      -     -     -     -  +++ hh:mm:ss.ff / Instr / Posn / Period /
                                              tVIS/ tNIR / Comment +++
14:36:55.93  ---      -     -     -     -  +++ Flight no. B314
14:36:55.93  ---      -     -     -     -
14:37:10.28  SWS      -     -     -     -  Initialization: VIS OK NIR OK
14:37:10.37  USH      -     -     -     -  Initialization: VIS OK NIR OK
14:37:10.48  LSH      -     -     -     -  Initialization: VIS OK NIR OK
14:37:40.97  ---      -     -     -     -  Reset shutters.
14:37:44.18  ---      -     -     -     -  Reset shutters.
14:37:47.38  USH      -     -     -     -  Manual scene recording started.
14:37:47.40  SWS      -     -     -     -  Manual scene recording started.
14:37:47.43  LSH      -     -     -     -  Manual scene recording started.
14:37:49.09  LSH      -     -     -     -  Manual scene recording started.
14:37:55.63  SWS      -     -     -     -  Dark measurement started.
14:37:55.89  USH      -     -     -     -  Dark measurement started.
14:37:56.09  LSH      -     -     -     -  Dark measurement started.
14:37:56.19  SWS      -     -     -     -  Manual scene recording started.
14:37:56.49  USH      -     -     -     -  Manual scene recording started.
14:37:56.68  LSH      -     -     -     -  Manual scene recording started.
14:38:02.66  ---      -     -     -     -  Reset shutters.
14:38:05.87  ---      -     -     -     -  Reset shutters.
14:38:10.11  SWS      -     -     -     -  Dark measurement started.
14:38:10.30  USH      -     -     -     -  Dark measurement started.
14:38:10.50  LSH      -     -     -     -  Dark measurement started.
14:38:10.70  SWS      -     -     -     -  Manual scene recording started.
14:38:10.94  USH      -     -     -     -  Manual scene recording started.
14:38:11.09  LSH      -     -     -     -  Manual scene recording started.
14:38:17.90  SWS      -     -   990     -  VIS int.time changed from 10ms to 990ms.
14:38:21.23  SWS      -     -     -   990  NIR int.time changed from 10ms to 990ms.
14:38:25.05  USH      -     -   990     -  VIS int.time changed from 10ms to 990ms.
14:38:28.33  USH      -     -     -   990  NIR int.time changed from 10ms to 990ms.
14:38:31.79  LSH      -     -   990     -  VIS int.time changed from 10ms to 990ms.
14:38:35.19  LSH      -     -     -   990  NIR int.time changed from 10ms to 990ms.
14:38:41.70  LSH      -     -     -     -  Dark measurement started.
14:38:42.18  SWS      -     -     -     -  Dark measurement started.
14:38:42.18  USH      -     -     -     -  Dark measurement started.
14:38:52.04  LSH      -     -     -     -  Manual scene recording started.
14:38:52.52  SWS      -     -     -     -  Manual scene recording started.
14:38:52.73  USH      -     -     -     -  Manual scene recording started.
14:39:03.37  SWS      -     -    25     -  VIS int.time changed from 990ms to 25ms.
14:39:06.84  SWS      -     -     -    25  NIR int.time changed from 990ms to 25ms.
14:39:17.51  USH      -     -    50     -  VIS int.time changed from 990ms to 50ms.
14:39:21.79  USH      -     -     -    25  NIR int.time changed from 990ms to 25ms.
14:39:31.97  LSH      -     -    50     -  VIS int.time changed from 990ms to 50ms.
14:39:36.24  LSH      -     -     -    50  NIR int.time changed from 990ms to 50ms.
14:39:56.38  SWS      -     -     -     -  Idling
14:39:56.41  LSH      -     -     -     -  Idling
14:39:56.41  USH      -     -     -     -  Idling
15:23:39.72  SWS   174R     -     -     -  Telescope position set to 174R
15:23:43.52  SWS      -     -   150     -  VIS int.time changed from 25ms to 150ms.
15:23:46.54  SWS      -     -     -   150  NIR int.time changed from 25ms to 150ms.
15:23:49.53  ---      -     -     -     -  Reset shutters.
15:23:55.19  LSH      -     -   150     -  VIS int.time changed from 50ms to 150ms.
15:23:57.78  LSH      -     -     -   150  NIR int.time changed from 50ms to 150ms.
15:24:02.34  SWS      -     -   300     -  VIS int.time changed from 150ms to 300ms.
15:24:12.88  SWS      -     -     -     -  Dark measurement started.
15:24:16.79  SWS      -     -     -     -  Idling
15:24:18.91  SWS      -     -     -     -  Manual scene recording started.
15:24:23.56  LSH      -     -     -     -  Dark measurement started.
15:24:25.97  LSH      -     -     -     -  Idling
15:24:27.13  LSH      -     -     -     -  Manual scene recording started.
15:24:30.90  USH      -     -     -     -  Dark measurement started.
15:24:31.85  USH      -     -     -     -  Idling
15:24:33.93  USH      -     -     -     -  Manual scene recording started.
15:24:37.80  SWS      -     -   200     -  VIS int.time changed from 300ms to 200ms.
```

15:24:42.73	SWS	-	-	-	200	NIR int.time changed from 150ms to 200ms.
15:24:45.98	USH	-	-	75	-	VIS int.time changed from 50ms to 75ms.
15:24:48.78	USH	-	-	-	75	NIR int.time changed from 25ms to 75ms.
15:24:51.53	USH	-	-	-	200	NIR int.time changed from 75ms to 200ms.
15:24:54.32	LSH	-	-	-	300	NIR int.time changed from 150ms to 300ms.
15:24:58.06	LSH	-	-	250	-	VIS int.time changed from 150ms to 250ms.
15:25:02.05	LSH	-	-	-	400	NIR int.time changed from 300ms to 400ms.
15:25:07.13	LSH	-	-	300	-	VIS int.time changed from 250ms to 300ms.
15:25:10.98	LSH	-	-	350	-	VIS int.time changed from 300ms to 350ms.
15:25:17.24	LSH	-	-	500	-	VIS int.time changed from 350ms to 500ms.
15:25:23.55	LSH	-	-	-	500	NIR int.time changed from 400ms to 500ms.
15:25:29.92	USH	-	-	100	-	VIS int.time changed from 75ms to 100ms.
15:25:32.66	USH	-	-	-	300	NIR int.time changed from 200ms to 300ms.
15:25:37.77	SWS	-	-	-	-	Dark measurement started.
15:25:37.77	USH	-	-	-	-	Dark measurement started.
15:25:37.80	LSH	-	-	-	-	Dark measurement started.
15:25:40.20	SWS	-	-	-	-	Manual scene recording started.
15:25:41.42	USH	-	-	-	-	Manual scene recording started.
15:25:43.61	LSH	-	-	-	-	Manual scene recording started.
15:27:15.80	LSH	-	-	750	-	VIS int.time changed from 500ms to 750ms.
15:27:18.52	LSH	-	-	-	990	NIR int.time changed from 500ms to 990ms.
15:27:22.46	LSH	-	-	990	-	VIS int.time changed from 750ms to 990ms.
15:29:32.36	SWS	-	-	100	-	VIS int.time changed from 200ms to 100ms.
15:29:37.06	LSH	-	-	300	-	VIS int.time changed from 990ms to 300ms.
15:29:42.74	LSH	-	-	200	-	VIS int.time changed from 300ms to 200ms.
15:29:49.01	SWS	-	-	75	-	VIS int.time changed from 100ms to 75ms.
15:29:53.32	SWS	-	-	25	-	VIS int.time changed from 75ms to 25ms.
15:29:55.66	SWS	-	-	-	150	NIR int.time changed from 200ms to 150ms.
15:29:59.21	SWS	-	-	-	-	Dark measurement started.
15:29:59.22	USH	-	-	-	-	Dark measurement started.
15:29:59.56	LSH	-	-	-	-	Dark measurement started.
15:30:01.15	SWS	-	-	-	-	Manual scene recording started.
15:30:02.84	USH	-	-	-	-	Manual scene recording started.
15:30:09.97	LSH	-	-	-	-	Manual scene recording started.
15:37:35.46	LSH	-	-	75	-	VIS int.time changed from 200ms to 75ms.
15:37:38.57	LSH	-	-	-	300	NIR int.time changed from 990ms to 300ms.
15:37:44.69	LSH	-	-	-	350	NIR int.time changed from 300ms to 350ms.
15:37:49.91	LSH	-	-	-	400	NIR int.time changed from 350ms to 400ms.
15:37:55.82	LSH	-	-	-	-	Dark measurement started.
15:38:00.28	LSH	-	-	-	-	Manual scene recording started.
15:38:05.40	LSH	-	-	150	-	VIS int.time changed from 75ms to 150ms.
15:39:03.94	SWS	-	-	75	-	VIS int.time changed from 25ms to 75ms.
15:39:10.91	SWS	-	-	100	-	VIS int.time changed from 75ms to 100ms.
15:39:22.99	SWS	-	-	150	-	VIS int.time changed from 100ms to 150ms.
15:39:31.98	SWS	-	-	-	-	Dark measurement started.
15:39:31.99	USH	-	-	-	-	Dark measurement started.
15:39:32.02	LSH	-	-	-	-	Dark measurement started.
15:39:33.93	SWS	-	-	-	-	Manual scene recording started.
15:39:35.62	USH	-	-	-	-	Manual scene recording started.
15:39:36.89	LSH	-	-	-	-	Manual scene recording started.
15:41:30.13	SWS	174R	-	-	-	Telescope position set to 174R
15:41:54.21	---	-	-	-	-	*** had shifted slightly
15:42:01.86	SWS	-	-	200	-	VIS int.time changed from 150ms to 200ms.
15:42:04.65	SWS	-	-	-	200	NIR int.time changed from 150ms to 200ms.
15:42:09.31	LSH	-	-	200	-	VIS int.time changed from 150ms to 200ms.
15:42:12.51	LSH	-	-	-	500	NIR int.time changed from 400ms to 500ms.
15:42:15.54	USH	-	-	150	-	VIS int.time changed from 100ms to 150ms.
15:42:19.25	USH	-	-	-	350	NIR int.time changed from 300ms to 350ms.
15:43:01.58	SWS	-	-	-	350	NIR int.time changed from 200ms to 350ms.
15:43:06.23	LSH	-	-	-	990	NIR int.time changed from 500ms to 990ms.
15:43:09.32	LSH	-	-	990	-	VIS int.time changed from 200ms to 990ms.
15:43:14.88	SWS	-	-	300	-	VIS int.time changed from 200ms to 300ms.
15:43:17.52	SWS	-	-	-	500	NIR int.time changed from 350ms to 500ms.
15:43:21.13	USH	-	-	-	-	Dark measurement started.
15:43:21.13	SWS	-	-	-	-	Dark measurement started.
15:43:21.21	LSH	-	-	-	-	Dark measurement started.
15:43:25.09	USH	-	-	-	-	Manual scene recording started.
15:43:26.77	SWS	-	-	-	-	Manual scene recording started.
15:43:31.88	LSH	-	-	-	-	Manual scene recording started.

15:43:43.25	SWS	-	-	-	750	NIR int.time changed from 500ms to 750ms.
15:43:54.00	SWS	-	-	-	-	Dark measurement started.
15:44:01.93	SWS	-	-	-	-	Manual scene recording started.
15:44:09.74	SWS	-	-	-	400	NIR int.time changed from 750ms to 400ms.
15:44:34.41	SWS	-	-	250	-	VIS int.time changed from 300ms to 250ms.
15:44:37.01	LSH	-	-	750	-	VIS int.time changed from 990ms to 750ms.
15:44:40.68	LSH	-	-	500	-	VIS int.time changed from 750ms to 500ms.
15:44:57.18	SWS	-	-	-	-	Dark measurement started.
15:44:57.18	USH	-	-	-	-	Dark measurement started.
15:44:57.70	LSH	-	-	-	-	Dark measurement started.
15:45:01.32	USH	-	-	-	-	Manual scene recording started.
15:45:01.66	SWS	-	-	-	-	Manual scene recording started.
15:45:08.05	LSH	-	-	-	-	Manual scene recording started.
15:54:15.51	SWS	-	-	-	990	NIR int.time changed from 400ms to 990ms.
15:54:22.42	SWS	-	-	-	500	NIR int.time changed from 990ms to 500ms.
15:54:57.40	SWS	6F	-	-	-	Telescope position set to 6F
15:55:01.06	SWS	-	-	200	-	VIS int.time changed from 250ms to 200ms.
15:55:07.38	SWS	-	-	-	-	Dark measurement started.
15:55:07.41	USH	-	-	-	-	Dark measurement started.
15:55:07.82	LSH	-	-	-	-	Dark measurement started.
15:55:11.52	USH	-	-	-	-	Manual scene recording started.
15:55:12.81	SWS	-	-	-	-	Manual scene recording started.
15:55:18.16	LSH	-	-	-	-	Manual scene recording started.
15:55:19.80	SWS	-	-	-	-	Dark measurement started.
15:55:20.09	USH	-	-	-	-	Dark measurement started.
15:55:20.40	LSH	-	-	-	-	Dark measurement started.
15:55:24.02	USH	-	-	-	-	Manual scene recording started.
15:55:25.25	SWS	-	-	-	-	Manual scene recording started.
15:55:30.76	LSH	-	-	-	-	Manual scene recording started.
15:55:58.50	SWS	-	-	150	-	VIS int.time changed from 200ms to 150ms.
15:56:03.48	SWS	-	-	100	-	VIS int.time changed from 150ms to 100ms.
16:01:28.00	SWS	-	-	75	-	VIS int.time changed from 100ms to 75ms.
16:01:34.27	SWS	-	-	-	400	NIR int.time changed from 500ms to 400ms.
16:01:37.52	SWS	-	-	-	-	Dark measurement started.
16:01:37.52	USH	-	-	-	-	Dark measurement started.
16:01:38.06	LSH	-	-	-	-	Dark measurement started.
16:01:41.65	USH	-	-	-	-	Manual scene recording started.
16:01:41.99	SWS	-	-	-	-	Manual scene recording started.
16:01:48.40	LSH	-	-	-	-	Manual scene recording started.
16:02:40.16	SWS	-	-	-	350	NIR int.time changed from 400ms to 350ms.
16:02:43.71	SWS	-	-	-	300	NIR int.time changed from 350ms to 300ms.
16:03:04.30	USH	-	-	-	-	Dark measurement started.
16:03:04.32	SWS	-	-	-	-	Dark measurement started.
16:03:04.69	LSH	-	-	-	-	Dark measurement started.
16:03:07.95	SWS	-	-	-	-	Manual scene recording started.
16:03:08.24	USH	-	-	-	-	Manual scene recording started.
16:03:15.09	LSH	-	-	-	-	Manual scene recording started.
16:08:32.45	LSH	-	-	-	-	Dark measurement started.
16:08:32.50	USH	-	-	-	-	Dark measurement started.
16:08:32.60	SWS	-	-	-	-	Dark measurement started.
16:08:36.33	SWS	-	-	-	-	Manual scene recording started.
16:08:36.60	USH	-	-	-	-	Manual scene recording started.
16:08:42.79	LSH	-	-	-	-	Manual scene recording started.
16:14:42.46	SWS	-	-	-	-	Dark measurement started.
16:14:42.75	USH	-	-	-	-	Dark measurement started.
16:14:42.90	LSH	-	-	-	-	Dark measurement started.
16:14:45.91	SWS	-	-	-	-	Manual scene recording started.
16:14:46.70	USH	-	-	-	-	Manual scene recording started.
16:14:53.31	LSH	-	-	-	-	Manual scene recording started.
16:22:55.28	LSH	-	-	400	-	VIS int.time changed from 500ms to 400ms.
16:23:03.95	SWS	-	-	150	-	VIS int.time changed from 75ms to 150ms.
16:23:07.66	SWS	-	-	-	350	NIR int.time changed from 300ms to 350ms.
16:23:11.42	SWS	-	-	-	400	NIR int.time changed from 350ms to 400ms.
16:23:20.91	SWS	-	-	-	-	Dark measurement started.
16:23:20.99	USH	-	-	-	-	Dark measurement started.
16:23:21.52	LSH	-	-	-	-	Dark measurement started.
16:23:25.06	USH	-	-	-	-	Manual scene recording started.
16:23:25.36	SWS	-	-	-	-	Manual scene recording started.
16:23:31.89	LSH	-	-	-	-	Manual scene recording started.

16:23:34.25	SWS	-	-	100	-	VIS int.time changed from 150ms to 100ms.
16:29:15.39	LSH	-	-	350	-	VIS int.time changed from 400ms to 350ms.
16:29:21.11	LSH	-	-	200	-	VIS int.time changed from 350ms to 200ms.
16:29:24.41	LSH	-	-	-	300	NIR int.time changed from 990ms to 300ms.
16:29:28.19	LSH	-	-	75	-	VIS int.time changed from 200ms to 75ms.
16:29:31.57	SWS	-	-	-	500	NIR int.time changed from 400ms to 500ms.
16:29:57.02	SWS	-	-	-	990	NIR int.time changed from 500ms to 990ms.
16:30:01.92	LSH	-	-	-	-	Dark measurement started.
16:30:01.93	USH	-	-	-	-	Dark measurement started.
16:30:02.81	SWS	-	-	-	-	Dark measurement started.
16:30:05.36	LSH	-	-	-	-	Manual scene recording started.
16:30:06.13	USH	-	-	-	-	Manual scene recording started.
16:30:13.16	SWS	-	-	-	-	Manual scene recording started.
16:30:27.53	SWS	-	-	-	400	NIR int.time changed from 990ms to 400ms.

ARIES flight log

Flight: B314			page 1 of
Date: 02/AUG/07	Operator(s): S. Rogers	Res: 1	Gain A: 2 B: 2
Loc./Notes: NEON - Hunting ships in Portsmouth Harbour.			

Scans: *either "[IGMs]X[co-adds]", or "[stop DRS time]" if in start/stop, or "[macro name]".* ***View:*** *mirror angle.*

DRS time	Flt ptrn	Scans	View	Shtr	HBB	CBB	Comments
15 11 15	on the ground	1 x 60	CH	C	71	31	Script 1 (1x60 C_{BB}; 1x60 H_{BB})
15 12 36	"	1 x 60	CH	C	71	31	=
15 39 01	2500 ft	1 x 60	CH	C	71	31	
15 41 22	2100 ft	1 x 60	CH	C	71	31	Cloudy above.
15 42 51		360 x 1	55°	C	71	31	✓
15 45 54		1 x 60	CH	C	71	31	
15 48 20		1 x 60	CH	C	71	31	
15 50 44		1 x 60	CH	C	71	31	
15 52 02		360 x 1	55°	C	71	31	✓
15 55 07		1 x 60	CH	C	71	31	
15 56 53		1 x 60	CH	C	71	31	
15 58 29		360 x 1	55°	C	71	31	x
16 01 33		1 x 60	CH	C	71	31	
16 04 12		1 x 60	CH	C	71	31	
16 05 32		360 x 1	55°	C	71	31	✓
16 08 32		1 x 60	CH	C	71	31	
16 10 17		1 x 60	CH	C	71	31	
16 11 38		360 x 1	55°	C	71	31	
16 14 58		1 x 60	CH	C	71	31	
16 16 57		1 x 60	CH	C	71	31	
16 18 17		360 x 1	55°	C	71	31	✓
16 21 21		1 x 60	CH	C	71	31	

Microwave Radiometers FLIGHT LOG	Date	02/08/06	Flight	B314	log pages	2

Operator(s)	KING POLLARD	Campaign	NEON
Departure	Cranfield	Arrival	Cranfield

System start

MARSS

Visual pod inspection						
Close 3 SSP circuit breakers						
Close all MARSS circuit breakers						
FERA on				at time	08:13:17	
Temperature controller initial temps	Ch16	22°C	Ch 17	23°C	Ch18 -20	20°C
Temperature controller set points		54°C		58°C		40°C
MARSS CPU on				at time	08:14:05	
Initial target temperatures	Hot	290		Cold	290	
Target heating						
*** CHECK SCAN HEAD CLEAR ***						
Scanning on (LMD box)				at time	08:18:08	
Scan indication		Monitor			Visual	

Deimos

Close all Deimos circuit breakers	Not in use			
Turn on Deimos CPU				
*** CHECK SCAN HEAD CLEAR ***				
Start Deimos Software			at time	
Initial target temperatures	Hot		Cold	
Target heating				
Scan indication		Monitor		Visual
Weather	Cloud		Precip	
	Surface		Pressure	
	Other			

System functionality check

(after initial system warmup, approx 1 hour)

PC to DRS Time error	$t_{PC}=t_{DRS}$ +		at time		
Brightness temps 'sensible'					
Target temps MARSS:	Hot		Cold		
Target temps Deimos:	Hot		Cold		
Channel gains 'sensible'	Ch1 A (-)	Ch3 A (-)	Ch1 B (-)	Ch3 B (-)	
	Ch16 (40-44)	Ch17 (45-49)	Ch18 (40-44)	Ch19 (40-44)	Ch20 (44-48)
	40.31	32.34	39.74	41.29	41.45

Power changeover

Headset on before start		
Listen to engine start sequence	4, 3, 2, 1.	
LMD off (3 switches, bottom to top)		
Exit Deimos Software (x)		
POWER CHANGEOVER		
LMD on (3 switches, top to bottom)	then pushbutton	
Restart Deimos Software		
System running again		at time

Flight #	B314	Date	02/08/07	Operator(s)	King Pollard	log page	2	of	2

Time	Run id	Alt/FL	*Remarks*	Sys
1522			Takeoff	
1535			Transition through cloud	
1620			Lost channel 16!	
1654			Power off	

Flight: B314

KEY

- Not Fitted
- Fitted, Not Operated
- Duff Data
- Minor Problems
- OK

Thermometers
- Cabin Temperature:
- Heimann:
- Deiced Temp:
- Non-deiced Temp:

Hygrometers
- FWVS:
- General Eastern:
- Johnson Williams:
- Nevzorov:
- Total Water Probe:

Cameras
- Downward Facing:
- Forward Facing:
- Rearward Facing:
- Upward Facing:

Navigation + Aircraft
- Cruciform GPS:
- GIN Applanix:
- INU Honeywell:
- Radar Altimeter:
- RVSM IAS:
- RVSM Static Pressure:
- XR5 GPS:

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Misc Core
- AMTG:
- AVAPS:
- Cabin Pressure:
- Fax machine:
- Printer:
- S9 Static Pressure:
- Satcom C:
- Satcom H:
- Turb Centre-Static:
- Turb Left Right:
- Turb Up-Down:
- Turb Horizontal Chk:
- Turb Vertical Chk:
- Weather Radar:

DLUs:
- DLU AERACK:
- DLU BBR Lower:
- DLU BBR Upper:
- DLU Core Chem:
- DLU Core Consoles:
- DLU Port Aft:
- DLU Port Fwd:
- DLU Stbd Fwd:

Radiometers
Lower:
- BBR (clear) Lower:
- BBR (IR) Lower:
- BBR (red) Lower:

Upper:
- BBR (clear) Upper:
- BBR (IR) Upper:
- BBR (red) Upper:

- ARIES:
- DEIMOS:
- IR Camera:
- JNO2 Lower:
- JNO2 Upper:
- JO1D Lower:
- JO1D Upper:
- MARSS:
- SHIMS Lower:
- SHIMS Upper:
- SWS:
- TAFTS:

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Cloud Probes
- 2DC:
- 2DP:
- FFSSP:
- PCASP:

- ADA:
- CCN:
- CDP:
- CIP 100:
- CIP 25:
- CPI:
- CVI:
- SID1:
- SID2:

Aerosol
- CPC 3025A:
- Filters 47mm:
- Filters 90mm:
- Neph - Dry:
- Neph - Wet:
- PSAP:
- AMS:
- CPC 3025 (AMS)
- INC:
- VACC:
- CPC 3010A (CVI):

Chemistry
- CO Aerolaser 5002:
- NOx TE42C:
- Ozone TE49C:
- Ozone TE49:
- SO2 TE43C:
- TDLAS (NIR) CH4:
- TDLAS (NIR) CO2:

- FAGE:
- Formaldehyde:
- NOxy:
- ORAC:
- PAN:
- PERCA:
- Peroxide:
- PTRMS:
- TDLAS (1C):
- WAS Bags:
- WAS Bottles:

Misc Non-Core
- CASI/ATM:
- LIDAR:
- LTI:
- SAW Hygrometer:

Faults / Incidents Log

Flight No. B314
Date: 02/08/2007

Instruments

1. TWC – Status light flashing (TAT=-2C). EVAP 1 going below limit reading 2096 DRSU, limit = 2110 DRSU on initial climb out of Cranfield then return climb en route back
2. Ozone – instrument got very warm pre-flight but cooled down during flight.

Aircraft

Satcom-H Calls

Post Flight - Turb Probe Water Traps

1. Indicate Amount of Water: a) Nil b) 1-2 drops c) ¼ full or more d) Ice present
2. Emptied by:
3. Dried by:

Pre-Flighter's Log

Date: 02/08/07 Flight No: B313 Pre-Flighter: SWM.

No.	√ or x	Location	Action	Comments
1	✓	Hangar	Collect Dustbin, put on a/c	
		Aircraft Cabin: Power-up		
2	✓	Core Chemistry	Gases x 3 ON	
3	✓	Cabin	All Racks Checked	
4	✓	Fwd CorCon	All reqd CBs made	
5	✓	Aft CorCon	CBs made, PCs ON	
6	✓	HORACE	Optical Disk loaded	
7	✓	HORACE	Recording data	
8	✓	HORACE	DLU Status Checked	
9	✓	HORACE	HORACE Status Checked	
10	✓	Satcom H	Power LED ON	
11	✓	Nevzorov	Checked and OFF	
12	✓	GPS	Checked	
13	✓	INU	Align	
14	✓	Cameras Pictures	Checked x 4 OK	
15	✓	Core Chemistry	Instruments Checked OK	
16	✓	Core Chemistry	CO Flows Checked OK	
17	X	FWVS	Set up	NOT ON
18	✓	Video x 2	Records okay, Rewind	
19	✓	DeIced Rosemount	Heater Checked / Set	
20	✓	Heimann	Calibration Checked	
21		TWC	ON & Checked	
22	✓	GE	Balance checked	
23	✓	INU	Navigate then back to Align	
24	✓	Hubs x 4	Checked ON	
25	✓	Fwd Console	Miss. Sci Laptop CB made	& CB on Port Fwd SSP
26	✓	CNC	Butanol filled	
27	X	Dry Neph	Power up & Zero Cal	NOT REQUIRED
28		CGPS	Set up	
29		Miss. Sci Laptop	Checked Onboard	
		Proceed to External Checks		

External Checks overleaf ⟶

Pre-Flighter's Log

No.	√ or x	Location	Action	Comments
		External Checks		
29	✓	Turb Probe	Clean if reqd, Photo taken	
30	✓	JW	Cleaned & Checked	
31	✓	DI Rosemount	Cleaned & Checked	
32	✓	NDI Rosemount	Cleaned & Checked	
33	✓	Nevzorov	Cleaned/windings checked	
34	✓	GE	Cleaned & Checked	
35	✓	Lower BBRs	Domes cleaned/checked	
36	✓	Camera Windows	Cleaned	
37	✓	Heimann	Lens checked OK	
38	✓	TWC Cover	Fitted if required	
39	✓	All other covers	Removed	
40	✓	Dustbin	Returned to hangar	
41		Tools	Check ALL in Toolkit	
42		Tools	Avalon informed	
		Avalon Checks		Signed
43		Upper BBRs Checked & Cleaned		
44		ICEX applied		
45		Turb Probe - Traps emptied, detail contents -		a)Nil b)1-2 drops c)1/4 full or more
46		Turb Probe - Traps dried and resealed		

MISSING LOG SHEETS:

The following log sheets are not available for flight B314:

Log	Reason
Core Chemistry	no In Flight log except in cases of instrument problems
PSAP log	No log as PSAP pump/filter info included on Flight Summary page
IR camera	No log available
CVI	No operator so probably no log

Document control

Revision	Date	Author	Comments
r0	25 Sep 2007	Doug Anderson	Initial version missing the above noted logs
r1			
r2			

VIDEO RECORDINGS:

1 x Upward Facing Cameras

Digital8 video recordings from this flight reside with :

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